

GET THE MOST FROM YOUR CONNECTION

Hooking up to a gigabit broadband network can be a lot like getting onto a high-speed roadway. There are a lot of possibilities – if you know how to take advantage of them. But what if your engine needs a tune-up? Or your tires are flat? What if you're on a bicycle? To take advantage of the speed, you need to have the right gear.

Here are a few suggestions for hitting the fast lane:

Check your Ethernet cable – Most cables have identifying information on them, and too low a rating means a slower experience. At minimum, a Cat 5e cable will be needed to go above 100 megabits per second and a Cat 6 cable is highly recommended for the full gig experience. Cat 5 cable and below is not recommended.

Check your computer – As a rule of thumb, desktops typically manage better Internet speeds than laptops and mobile devices, but this isn't universally true. Some newer laptops, when hooked up to the fastest router and Ethernet cable, will manage a gig where an older desktop couldn't. The machine's age and configuration matter; again, check with a knowledgeable salesperson.



Remember to secure your wireless router with a password.

This will protect your home network connection allowing you to control user access, preventing unauthorized or unknown users from connecting to your wireless internet.

Check your router – Older routers may only be able to provide a small percentage of the speed your fiber connection is capable of. Check with your salesperson to make sure your router can support gigabit Internet speeds. Also, a computer that is directly wired to a router will reach faster speeds than one with a wireless connection.

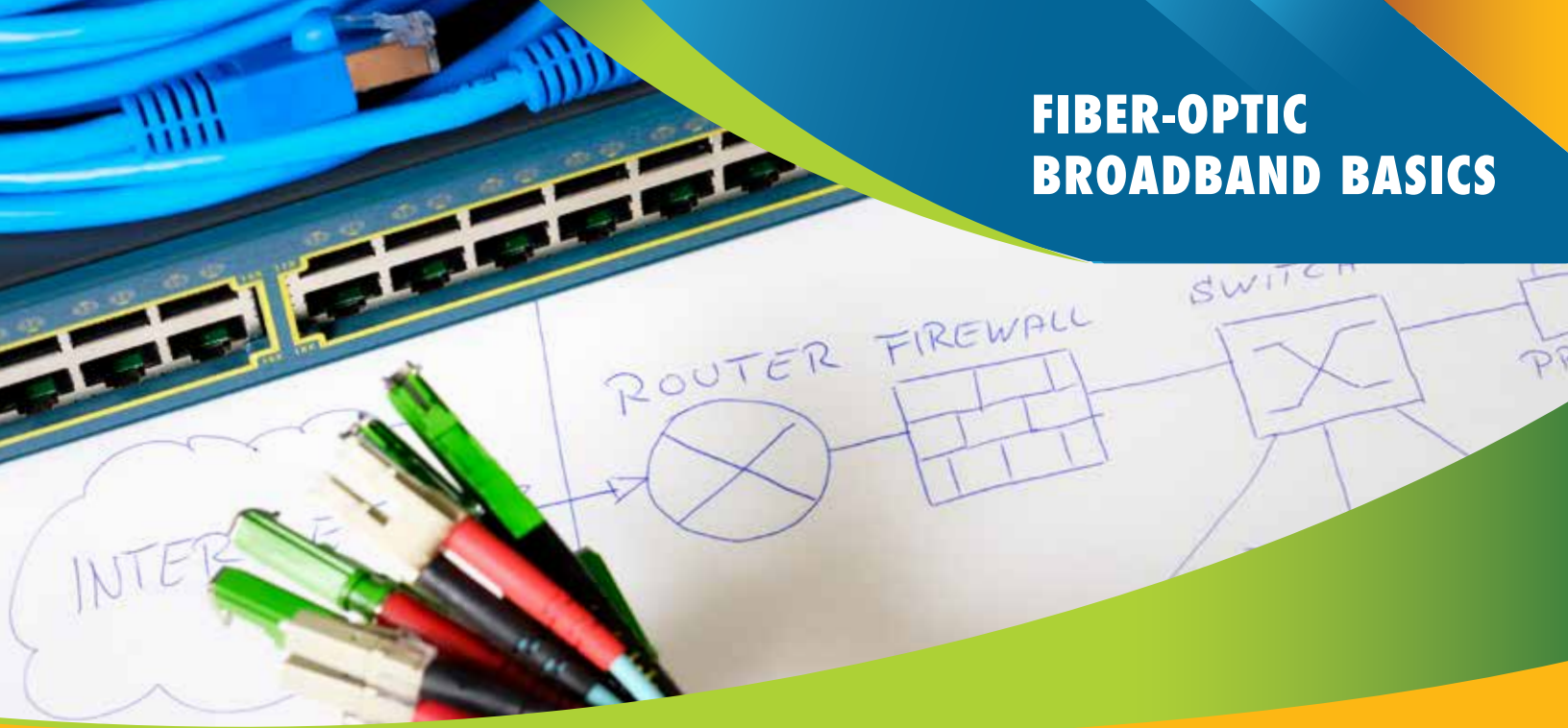
Wireless Router Type	Maximum Data Rate*
802.11b	11 megabits per second
802.11a 802.11g	54 megabits per second
802.11n	600 megabits per second
802.11ac	1.3 gigabits per second**

* Actual throughputs may vary.

**Maximum data rate for a NextLight residential customer is 1 gigabit per second.

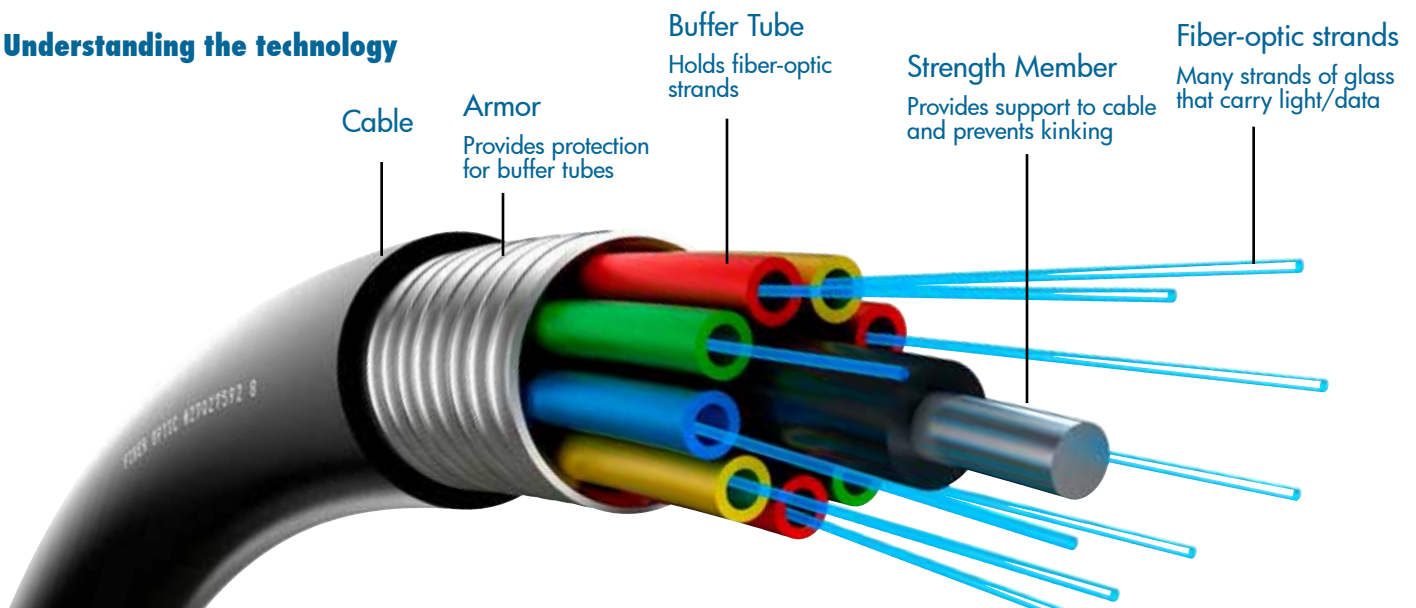


FIBER-OPTIC BROADBAND BASICS



Fiber is glass: A fiber-optic system is connected by strands of glass, a little thicker than a human hair. Compared to a coaxial cable or even the copper wire used by a phone company, it can seem tiny, almost invisible.

Understanding the technology



The glass fiber carries light, shot through the strand like water through a pipe, and carrying a signal farther and more clearly than either copper or a coaxial cable can. Layers of material around the fiber both protect the glass and reflect the light, while modulators at either end translate the light to and from the electrical pulses used by a computer or telephone.

FIBER-OPTIC BROADBAND BASICS

Understanding the speed

Fiber is fast: Light is the fastest thing known in the universe and can power an information network faster than anything yet built. On today's Internet, the average American has an Internet access speed of about 10 megabits per second. Fiber allows uploads and downloads at 1,000 megabits per second, also known as a gigabit.

What does that mean, when taken out of geek-speak? Well, take a minute and go get yourself a movie online. Go ahead, we'll wait.

2-hour non-HD movie

Movie file size: 1 gigabyte (GB)



10Mbps connection



1Gbps connection

2-hour HD movie

Movie file size: 5 gigabyte (GB)



10Mbps connection



1Gbps connection

Fiber is essential: For many businesses, the ability to move detailed information at light speed is essential. It means medical charts can be sent in minutes instead of hours. It means easy transfer of graphs for a financial analyst, or blueprints for an architect, or samples for an artist trying to get a new showing. It means that international teleconferences can be held with crystal clarity and without lost callers, and that teachers can have a classroom that spans the world.

Fiber is fun: All work and no play would make fiber very dull indeed, though. The same connection lets you easily post videos to YouTube, send vacation photos across the country, or play the latest online video games without ever reaching the network capacity. If fiber has limits, they haven't been found yet.

Fiber is tough: Short of being cut by construction equipment, there's not a lot that damages a fiber. They're not conductive and carry no electricity, cutting out risks from corrosion, short circuits, and even lightning strikes. And the maximum lifetime is still unknown – according to Corning, which developed the technology, optical fibers from the 1970s are still in use.

YOUR DIGITAL VOICE

In addition to the fastest Internet service in Longmont, NextLight™ also offers Digital Voice, a telephone service connected over our fiber-optic network. If you don't have Digital Voice yet but think you may be interested, give us a call at 303.651.8386.

If you have signed up with us for Digital Voice, you'll still make and answer calls the way you always have, but there are some differences and quite a few features to your new service.

We'll run through the basics here, but if you need more detail, a complete User Guide can be found online. Call 303.651.8386 or visit <https://myphone.lpcnextlight.com> for help.

From Your Phone

Forwarding/Waiting	To Turn On	To Turn Off
Call waiting	Default, unless changed online	*70
Forward all calls	*72 plus the # being forwarded to	*73
Forward calls when line busy	*90 plus the # being forwarded to	*91
Forward calls when no answer	*92 plus the # being forwarded to	*93
Forward calls when unreachable	*94 plus the # being forwarded to	*95
Identification/Protection		
Block my Caller ID	*67 (for each call)	N/A
Do Not Disturb (Phone won't ring)	*78	*79
Display others' Caller ID	*65 (for each call)	N/A
Reject anonymous callers	*77	*87
Quick Calling		
Call return (last inbound caller)	*69	N/A
Redial last outbound number called	*66	N/A
Set speed dial (Up to 100 numbers)	*75	N/A

To set up the voice mail on your new system:

- 1) Dial *62 and then your default password of 4227.
- 2) Set up a new password at the prompt. It will be set after dialing it twice. Then press the # key to enter the system.
- 3) Once complete, you can access your voice mail from any phone by dialing either *62 or your own phone number, followed by the * key and your password. The system's menus will then detail your options; these can also be found in the User Guide.



From Your Computer

To get your online Digital Voice account going, go to <https://myphone.lpcnextlight.com> and follow these steps:

- 1) Log in with your 10-digit phone number as your username (without hyphens or spaces) and click “forgot password” on the upper left of the screen. An email will be sent to you with a link and a randomly generated password.
- 2) If you don’t get an email, please call Customer Service at 303.651.8386 and ask that your email address be added to your voice account. Once it has been added, start again from Step 1.
- 3) Enter the emailed password into the appropriate field and click “Login.”
- 4) On your first login, you will be asked to create a four-digit CPNI security code. This will verify your identity if you need to make changes to your account. To make those changes, go to the “Account Info” button on your home page.
- 5) To create a new password later on, use the “Change Password” tab on your home page under “Account Info.” The password must be at least 6 characters long and contain at least one number, one lower-case letter and one upper-case letter.

911 Service – We route your call to the local emergency response center based on the physical address you gave us. If you move, you need to call our support line, 303.651.8386, to update the address. This will take a few days to change, so plan ahead.

Outages – If your power or Internet service goes out, your Digital Voice service will go to a battery backup. If this runs out before power is restored, your service will go out. This includes 911 dialing over our system. If your home has an alarm or emergency response system, we recommend keeping a traditional phone line for these devices.

International Calling – This feature is off by default. Call our support line at 303.651.8386 to activate it, after which you may call as normal. In the event of difficulty, our NextLight™ customer service representatives can be reached at 303.651.8386 or by email at sales@lpcnextlight.com.

On your home page, clicking the “Features” button will let you set a number of features on your digital voice service. These include:

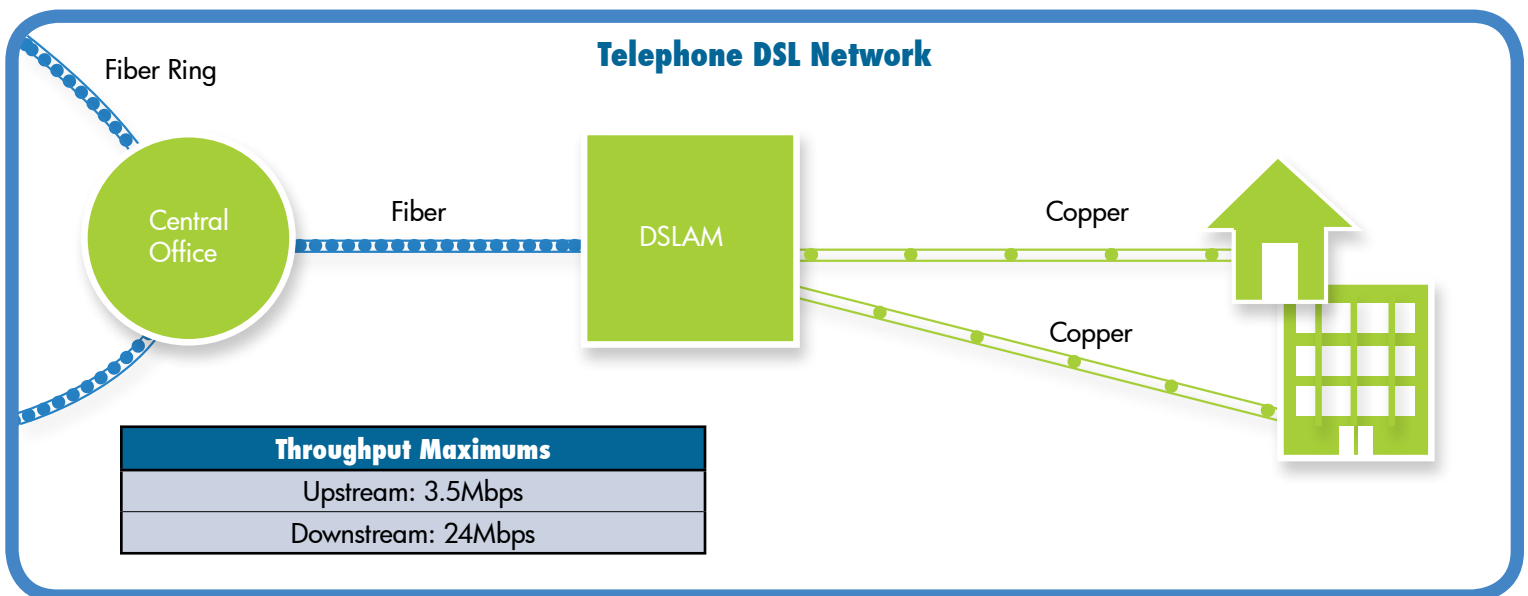
Anonymous Call Rejection	Call Forwarding	Selective Sequential Ringing
Broadworks Anywhere	Call Waiting	Simultaneous Ringing
Call Forwarding Always	Connected Line ID Restriction	Speed Dial
Call Forwarding Busy	Do Not Disturb	Speed Dial 100
Call Forwarding No Answer	Outbound Calling Line ID Blocking	Two-Stage Dialing
Call Forwarding Not Reachable	Selective Call Accept/Reject	Voicemail Management

THE FIBER-OPTIC DIFFERENCE



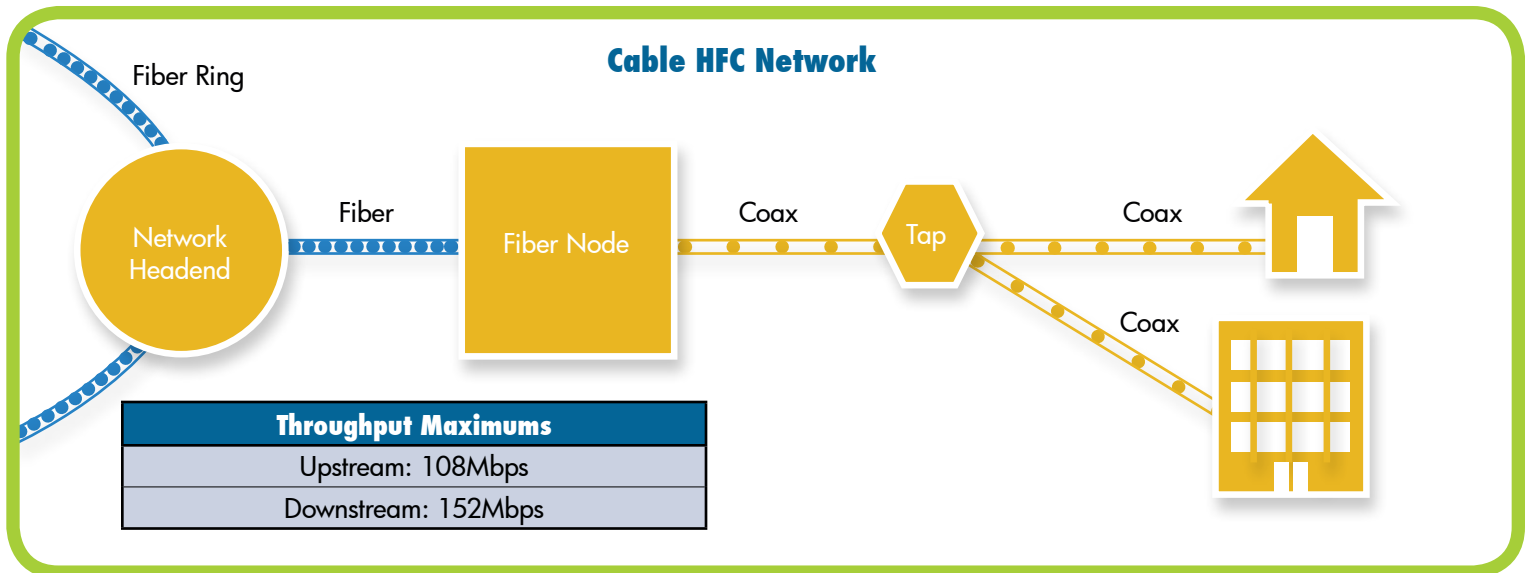
Looking around the country, or even the region, it might sometimes seem like everyone has a fiber-optic network. A barrage of ads from a swarm of companies all make the same claim – “We have fiber!” – and small wonder. Fiber-optics are the cutting edge of Internet service, the sports car of the data highway. But there’s a difference between owning a sports car and just having the hood ornament. Take a look at the structures below and you’ll get a quick sense of what it means to “have fiber” ... and how much more it means to be fiber.

A telephone DSL network often will have fiber connections running from its central office to a network crossroads, a device referred to as a DSLAM (digital subscriber line access multiplexer). That device connects multiple customers to a single channel – but those connections from the DSLAM to your home or business are all copper telephone lines. Copper has a thin “pipe” for passing data; the top speed for downloading information is about 24 megabits per second (Mbps) while uploads will max out at about 3.5 Mbps.



THE FIBER-OPTIC DIFFERENCE

A cable HFC network has a few more horses behind the engine. A typical setup will run a fiber-optic connection from the cable network's "head end" (itself on a fiber ring) to a fiber node. That node then sends the signal on to multiple locations – but not over fiber. Instead, the connection continues over a coaxial cable line, which is "tapped" to reach each individual customer. A cable "pipe" is thicker than a DSL one, capable of up to 152 Mbps downloads. That's better than DSL – but not as good as what a fully-fiber setup can provide.



A 100 percent fiber-optic GPON network uses fiber from start to finish. The connection starts from the head end, goes to a midpoint "optical line terminal" and then runs through a splitter before coming to your business. But it never leaves the fast lane of fiber in its entire journey. Because of that, all-fiber GPON networks are capable of up to 1,200 Mbps uploads – 1.2 gigabits per second, if you prefer – and up to 2,400 Mbps downloads. And if the electronics at either end of the line improve, the speeds could get still faster; the potential for the fiber itself is so vast that no one has found the limits yet. With an all-fiber network behind you, the only limits are those of your computer, your router, your Ethernet cable ... and your imagination.

With end-to-end fiber, that also means you have the most reliable network there is, one that's less vulnerable to outages and interruptions, less vulnerable to lightning strikes and weather, and immune to electrical interference. After all, speed only matters if you can count on it. And with a fiber pathway straight to your business, you absolutely can.

